DOCUMENT RESUME

ED 262 799 IR 051 310

TITLE IFLA General Conference, 1985. Division on Collections and Services. Section on Interlending and Document Delivery. Papers.

INSTITUTION International Federation of Library Associations, The Hague (Netherlands).

PUB DATE Aug 85

NOTE 47p.; Papers presented at the International Federation of Library Associations (IFLA) General Conference (51st, Chicago, IL, August 18-24, 1985).

PUB TYPE Viewpoints (120) -- Reports - Descriptive (141) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.

DESCRIPTORS Foreign Countries; Information Systems; *Interlibrary Loans; International Organizations; Library Associations; Library Automation; Library Catalogs; *Library Cooperation; *Library Networks; *Library Services; National Libraries; *Online Systems; Program Descriptions; *Union Catalogs

IDENTIFIERS Canada; *International Federation of Library Associations; Netherlands; Resource Sharing

ABSTRACT

Papers on interlibrary loans and document delivery which were presented at the 1985 International Federation of Library Associations (IFLA) conference include: (1) "The Activities of the IFLA Office for International Lending" (Richard J. Bennett, British Library Lending Division, United Kingdom); (2) "Electronic Networking for Interlibrary Loan in the OSI (Open Systems Interconnection) Environment" (Hope E. A. Clement, National Library of Canada, Canada); and (3) "The Online System of Union Catalogs and Interlibrary Loan ('NCC/IBL') in the Netherlands" (Arie W. Willemsen, Royal Library, Netherlands). (THC)

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IFLA

1985

IFLA GENERAL CONFERENCE, CHICAGO

Division: Collection and Services

Section: Interlending and Document Delivery

52-IL-1-E

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ED262799

The activities of the IFLA Office for International Lending

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IR051310

KEYWORD(S):

For internal use only:

To be brought to meeting no:

-- 175 ---

Remarks:

to be presented orally ☒

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Introduction

The IFLA Office for International Lending has been in existence for 10 years and Brian Kefford, a former Assistant in the Office has written a brief summary of what the Office has achieved in this time.[1] It is timely to consider the current activities of the Office and its future.

An acronym for the Office in frequent use by the Office's staff is O.I.L., which, as the English word "oil", perhaps quite accurately describes the function of the Office as the medium by which the "engine" of international lending is enabled to run smoothly. It achieves this by (i) practical support to those who are actively involved in international lending; (ii) collection and publication of information of interest to those concerned with international lending ; (iii) conducting and encouraging research and studies of relevance to international lending.

The Office's staff consists of Maurice B Line, Director, and Richard J Bennett, Assistant, both of whom also have further responsibilities within the British Library Lending Division, where the Office is housed. Staff and accommodation costs, secretarial services and postage costs are borne by the British Library, with IFLA contributing with stationery, advice, etc. The function of the Office as a focal point for enquiries and research, as well as its more routine functions, such as correspondence, and administrative work on publications and request forms are in themselves justification for its existence.

Practical Support

The IFLA International loan/photocopy request form has been in use in its present format for some 10 years. The request forms, available in packs of 100, are distributed from the British Library Lending Division and the price of £6.00 covers printing and administrative costs only. Well over ½ million of the forms have been sold to date. The form was designed on the basis of detailed questionnaires, was improved in 1983, and contains the features most needed for international requesting: three carbon-interleaved sheets, allowing copies for retention by requesting and supplying libraries; working space; boxes for special requirements, interim and final reports and a circulation rota; a gummed address label including customs statement agreed by IFLA in 1978; signature box for copyright declaration. The form has become widely accepted as a standard means of inter-library communication. Nevertheless sales of the form are slowly declining. Whereas one can speculate as to the reasons for this, the Office has begun an "advertising" campaign to try to arrest the decline and increase the use of the request form. IFLA Headquarters are co-operating in this. From time to time the Office receives enquiries on the possibility of producing the IFLA International Request form on continuous stationery for use with computers. As more and more libraries automate their services, demand for this is likely to increase. The Office is therefore currently investigating the possibility of continuous stationery IFLA forms and printers are to be approached in the near future.

The Office has provided guidelines for the effective conduct of international lending in the form of International Lending: Principles and Guidelines for Procedure, which was first published in 1978 and subsequently

re-issued with minor revision in 1983. To enable these guidelines to be distributed as widely as possible they are available free of charge and have been translated into various languages. The Principles and Guidelines have also been included in the Office's main publication, A Brief Guide to Centres of International Lending and Photocopying. The third edition of this handbook was published in 1984 and contains entries from 90 countries, which give details of interlending practice in the country concerned, details of union catalogues, etc, addresses to which international requests should be sent, prices of services, particularly photoduplicating services and payment procedures, and details of any peculiarities, restrictions, etc in the service. The publication is in English but indexes to the countries are also given in French, German and Russian, to aid those unfamiliar with the English names for countries. Even though this edition of the Brief Guide has only just been published some of the information, particularly that on prices, will already have become out-of-date, so it is proposed to issue periodic up-dates containing the latest information. Information will be gathered by letters to contributors. Plans for the future of this publication may involve publication on-line or as COM, which would mean the publication could easily be kept up-to-date.

One of the major obstacles the Office for International Lending has to overcome is the lack of response to its initiatives. This was true of the preparation for the Brief Guide, where a considerable number of countries had to be "chased", and where in the end new information was received from only seventy out of the 113 countries approached. For this reason information from the second edition was reproduced for those countries that had responded then and for which it was felt an entry of some kind was necessary. The same indifference is regularly encountered in the collection

of statistics of international lending, which the Office undertakes every two years. On the latest survey, for international lending in 1982[2], less than half of the centres of international lending to which questionnaires were sent responded. It is acknowledged that a complete picture of international lending will never be achieved, and that the figures that are collected are incomplete, and in some cases present a highly inaccurate picture of international lending within a country. Nevertheless the figures that are received enable trends and changes in worldwide interlending to be observed, and albeit very approximately, the total volume of international lending to be estimated. For example, it has been noted that, despite the lower response rate to the questionnaires, the figures received indicate a steady growth in international lending: the 1982 figures showing a 36% increase over the 1980 figures. On the other hand it is less encouraging to note that average satisfaction rates seem to be declining, although improvements are seen at both ends of the spectrum. The 1982 average satisfaction rate was 57% (or 69% including the British Library Lending Division). These figures speak for themselves. By collecting and presenting them, the Office for International Lending is hoping to encourage libraries to improve their performance, particularly in the context of IFLA's International Programme for the Universal Availability of Publications (UAP)[3].

International lending is unlikely to succeed if the national interlending systems within countries are inffective. To help improve national interlending the Office has produced a Model National Interlibrary Lending Code[4] and a questionnaire for the collection of national interlending statistics.

Information Support

For several years the Assistant in the Office for International lending has gathered information on all aspects of interlending by regular scanning of relevant library literature from all over the world. Significant items are reviewed twice a year in articles in Interlending and Document Supply and a wider range of references is given in "a Bibliography of Interlending and Document Supply" in alternate issues of the same journal. The aim of the Bibliography is to be comprehensive, although not necessarily exhaustive. The articles cover literature on interlending at national and international levels, since, as noted above, the latter ultimately depends on the former. Apart from their value to those involved in interlending, the articles enable the staff of the Office to build up a wide-ranging knowledge of and keep up-to-date on developments in interlending and equip them to be able to fulfil their advisory role the more effectively. A substantial number of these references were combined into one work in 1982 by B Kefford, International Interlibrary Lending. A Review of the Literature[5], which is now out of print. An earlier publication was BRIQUET DE LEMOS, A A: Descriptions of interlibrary lending in various countries and a bibliography of interlibrary lending[6], also now out of print.

Studies and Research

The Office for International Lending has been involved in two studies carried out under contract to Unesco: on existing national interlending systems and possible models[7] and on the international provision and supply of publications[8]. These have been described elsewhere[9] [10].

More recently the Office undertook a study on the concept of core collections of journals as a basis of a partly centralized interlending system in a country[11], and in the context of the Medium-Term Programme 1981-1985 of the IFLA Section on Interlending and Document Delivery, the Office produced a paper on planning union catalogues of books in developing countries[12], which was presented at the 50th IFLA General Conference in Nairobi, Kenya.

The Director and the Assistant of the Office both participated in a seminar on interlibrary lending in Western Europe, organized by NORDINFO and the British Library Lending Division and held at Boston Spa in September, 1983,[13] and action points arising from this seminar form part of the Office's current activities. These are, firstly, to pursue standard message formats for on-line interlending requests, since on-line requesting is likely to be increasingly popular in the future. Secondly, the Office is studying the possibility of standardized loan charges and methods of payment within Western Europe. The Office sent out a preliminary questionnaire to major Western European interlending centres towards the end of 1984, and the replies, many of which have been encouraging in the detail and evidence of serious concern they show, are currently being analysed. The preliminary results of this and any other work on this topic will be presented to the Section on Interlending and Document Delivery in Chicago. Thirdly, information on special collections in fringe subject areas in libraries in Western Europe is very sparse, and it was felt that a guide to such collections would be very helpful. The Office agreed to investigate the feasibility of such a guide, with the possibility of ultimately producing it as an on-line database. Preliminary work has already begun, but the project

is likely to be a long-term one, involving cooperation between a large number of Western European libraries.

The Future

The prevailing atmosphere in which libraries, particularly in the West, are currently operating is one of financial restraint. It is likely that international lending will increase in importance because of this, as libraries reduce their acquisitions of foreign material to concentrate on adequate provision of national literature. Already the Office for International Lending is taking account of this in the project, mentioned above, to set up a guide to major special subject collections in fringe subject areas in Western European libraries. There is even greater scope for work in this area, to minimize failed requests and enable first-time requests to succeed.

Traditional postal requesting is increasingly being replaced by on-line document requesting and delivery. The endeavours of the Office to develop standard interlending request formats should help in this area. On-line locating and requesting are increasingly transcending national boundaries and commercial document suppliers are taking an increasing share of the document delivery 'market'. These factors may lead to a re-evaluation of the concept of international document supply, and the Office for International Lending will certainly wish to be in the forefront of their thinking.

The holding of IFLA's 50th General Conference in Kenya drew particular attention to the plight of libraries in developing countries, and the Office

for International Lending, as well as being involved in the sophisticated technology of interlending in the developed countries, will continue to foster the growth of interlending in developing countries by whatever means it can.

Conclusion

The IFLA Office for International Lending has played an important role in international lending over the past 10 years, with a range of practical aids, publications and studies to its credit. It is intended that, in the current era of rapidly changing technology in international lending, the Office will continue to play a vital and effective role.

References

1. KEFFORD, Brian. The IFLA Office for International Lending: the first ten years. Interlending and Document Supply, 1985, 13 (1), 21-22.

2. Statistics of international lending - 1982. IFLA Journal, 1984, 10 (3), 310-314.

3. LINE, M B. UAP and interlibrary lending. IFLA Journal, 1978, 4 (2), 118-121.

4. Model national interlibrary lending code. Interlending and Document Supply, 1984, 12 (1), 15-17. (Copies may also be obtained from the IFLA Office for International Lending, c/o British Library Lending Division, Boston Spa, Wetherby, West Yorkshire, LS23 7BQ, UK)

5. KEFFORD, Brian. International interlibrary lending; a review of the literature. Boston Spa, IFLA Office for International Lending, 1982. ISBN 0 85350 184 X.

6. BRIQUET DE LEMOS, A A. Descriptions of interlibrary lending in various countries and a bibliography of interlibrary lending. Boston Spa, IFLA Office for International Lending, 1980. ISBN 0 85350 175 0.

7. LINE, Maurice B and others. National interlending systems; a comparative study of existing systems and possible models. Paris, Unesco, 1980. (PGI/78/WS/24 Rev)

8. LINE, Maurice B, KEFFORD, Brian and VICKERS, Stephen C J. International provision and supply of publications. Paris, Unesco, 1981. (PGI-81/WS/30)

9. LINE, Maurice B. National interlending systems: existing systems and possible models. Interlending Review, 1979, 7(2), 42-46.

10. LINE, Maurice B. The need for improved worldwide provision of publications. Unesco Journal of Information Science, Librarianship and Archives Administration, 1982, 4 (1), 8-17, 75.

11. KEFFORD, Brian and LINE, Maurice B. Core collections of journals for national interlending purposes. Interlending Review, 1982, 10 (2), 35-43.

12. BENNETT, Richard J and LINE, Maurice B. Planning union catalogues of books in developing countries. IFLA Journal, 1985, 11 (1), 27- 35.

13. KEFFORD, Brian and LINE, Maurice B. Seminar on interlibrary lending in Western Europe: a report. Interlending and Document Supply, 1984, 12 (2), 35-41.

IFLA

1985

IFLA GENERAL CONFERENCE, CHICAGO

Division: Collection and Services

Section: Interlending & Document Supply

53-IL-2-E

Electronic Networking for Interlibrary Loan in the OSI Environment

by

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KEYWORD(S):

Interlending
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For internal use only:

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Remarks:

to be presented orally [*]

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Electronic Networking for Interlibrary Loan in the Open Systems Interconnection (OSI) Environment; the Canadian experience

Library resource sharing and cooperation in Canada is using the mechanism of an open, voluntary, decentralized, nationwide network, based on the technical standards for Open Systems Interconnection (OSI) under which various types of heterogeneous hardware and software systems can communicate with one another and share data. This type of network is particularly suited to the Canadian physical and political environment as well as to current trends in technology. Interconnection also is a very pragmatic approach in that it promotes networking based on existing systems.

Canada is geographically a vast country, sparsely populated and composed of two official language groups. Politically it is divided into ten provinces and two territories each with their own levels of government and there is a strong regional emphasis. According to the constitution, education and culture and therefore libraries are provincial rather than federal matters. Canadian libraries also have close direct links with American libraries.

In this environment, networking is of necessity voluntary. Libraries of various types, academic, public, and special, both public and private, fall under various jurisdictions for sources of funds and owe their first allegiance to the primary clientele whom they were established to serve, be it

faculty and students of a university or citizens of a city. Each individual library decides how it will participate in networking and cooperative programmes. Participation in open networks can thus differ substantially from one institution to another without prejudice to the network as a whole and each library can choose the most cost effective mix of services to meet its particular needs.

In a large country telecommunications are critical and decentralization to local and regional levels is often economically beneficial and politically desirable and can lead to faster document delivery. With the advent of mini- and micro-computers of various types and capacities, libraries can exercise much more choice in the systems they will use or acquire. In Canada there are an estimated 150 to 200 individual or shared library systems of various types and sizes and one large bibliographic utility, UTLAS. The current trend seems to be towards distributed processing on a multiplicity of local systems with downloading of source records from major data bases.

It was to promote networking in this environment that the National Library of Canada decided in 1982 to test the use of Open Systems Interconnection (OSI) for library applications. The Reference Model for Open Systems Interconnection which is recognized by the International Standards Organization (ISO) and the International Telegraph and Telephone Consultative Committee (CCITT) presents a basic architecture for computer communications. Protocols or standards developed in accordance with this conceptual model

allow computers, terminals and communications systems from any manufacturer or supplier adhering to the standards to exchange information. Thus OSI is independent of the hardware and software being interconnected and the applications protocols can be used in manual as well as automated systems.

OSI consists of seven layers, each one dependant on the level below. The bottom six layers interconnect the various computers and are independent of the data communicated; the top or application layer must be developed for each application and allows the interconnected systems to communicate data to one another. A pilot project conducted by the National Library in 1982-83 tested the development of protocols or standards for this top layer of OSI, specific to library applications, including a basic version of file to library applications, including a basic version of file transfer of MARC records between systems and the use of electronic mail with standardized formats for sending and receiving ILL messages. Further work on these protocols is continuing as well as on protocols for acquisitions and for directories of network services.

The National Library of Canada initially tested the applicability of OSI to library applications using the iNet Gateway system of a Canadian telecommunications utility, Telecom Canada. The use of the iNet Gateway enabled a simulation of the OSI model and proved a useful surrogate to test an open network. The results of the iNet trial, involving sixteen Canadian libraries of various types, showed that OSI can indeed provide a technical basis for a Canadian library network. The National Library continues to use

telecommunications and value-added services to provide the lower layers of the protocols where possible so that it can concentrate on protocol development for specific library applications.

At the same time as OSI was being tested other changes were taking place. The most rapidly growing use of new technology in Canadian libraries is that of electronic mail. Formerly, interlibrary loan messaging was done by telephone, mail, or telex which was used by the majority of libraries. In the last three years since electronic messaging systems became available, electronic mail has rapidly gained ground at the expense of telex. Over 56% of document delivery requests to the Canada Institute for Scientific and Technical Information (CISTI) are now made via electronic means (telex and electronic mail). At the National Library over the last three years, use of electronic mail for interlibrary loan messaging has grown from 1% to 44%, while use of telex has decreased from 60% to 18%.

Obviously electronic mail is here to stay but the problem is in the multiplicity of different systems all having their own separate directories of users and forms of users' names (electronic mail systems require very precise user identification down to the exact spacing and last comma) and providing different instructions and message formats. In Canada, in

addition to telex, libraries already use two common carrier electronic mail systems, Telecom Canada's Envoy system and CNCP's EOS. Canadian universities are using two proprietary systems; the Canada Institute for Scientific and Technical Information operates the CAN/DOC messaging system for interlibrary loan; the bibliographic utility UTLAS has its own interlibrary loan facility and messaging system. Of course Canadian libraries need also to access American systems. In the United States systems abound with CLASS, OnTyme and the American Library Association's ALANET having particular importance for libraries. The result of all this technological innovation was technological chaos with a multiplicity of unconnected systems. This may be less of a problem for a small institution which does most of its interlending with a limited number of suppliers. For large libraries, that is the net lenders and the heavy borrowers, it becomes imperative to be able to communicate with every system in order to obtain and supply loans. The development of new electronic mail systems is not likely to decrease. Libraries are usually part of a larger institution, for example part of a university, a company in the case of a special library or a municipality in the case of a public library. Pressure is on libraries to use the messaging system chosen by their parent organization. For reasons of economy these are frequently private networks. However OSI standards can be implemented on these networks.

The whole purpose of a network is to carry messages. In a library network these messages are about library services such as interlibrary loan, acquisitions or cataloguing copy. Protocols are simply the standard specifications for the messages which need to be exchanged between two independant

systems for a particular application or service. The protocol defines the format of each message, describes what information or data elements it should contain and establishes the order or sequence in which the messages should be sent. It is, in fact, an electronic version of a multi-part printed form. All libraries in the network have to be able both to send and to receive these messages. However libraries use a wide variety of computers (hardware) and software, depending on their needs, and these different systems cannot communicate with each other. With the Open Systems Interconnection (OSI) model, general protocols are used to enable different computers using different software to communicate directly. Thus the National Library of Canada began developing OSI standard protocols to enable computers in libraries to communicate with each other and send messages via electronic mail systems.

There are various stages in the development of OSI protocols for library applications illustrated here in terms of the interlibrary loan protocol. First it is necessary to develop a general reference model of the application which describes exactly who is involved in interlibrary loan and what functions are carried out. This functional description is then turned into a service specification describing in detail the data that is exchanged (data elements) and the format and sequencing of the messages. The next step, the protocol specification, consists of making the service specification into computer coded program statements. These are written in extended Pascal. Thus a protocol consists of a vocabulary (the data elements) a grammar or syntax (the message formats) and a logical order of communicating (sequence of messages).

In the case of interlibrary loan, the data elements used in the message format were adapted from the interlibrary loan service specification and from the ISO Data Element Directory for ILL applications being developed by ISO/TC46/SC6/WG1, now a draft international standard (DIS 8459/1 Documentation - Data element directory - Part 1: interloan applications). The format or syntax for interlibrary loan messaging is based on an internationally accepted format for trade document interchange, contained in "Guidelines for Trade Data Interchange developed within the United Nations Economic Commission for Europe" (GTDI). The message syntax is compatible with Telex/TWX to accommodate the projected three to five year continuing use of such machines. The format is machine processable, permitting automated forms preparation and interpretation by intelligent devices and is sufficiently flexible to permit message preparation in a number of environments.

The detailed protocol specification is hardware independent and is written in a high level programming language. All the protocol specifications developed at the National Library of Canada are being written in Pascal. However, to test the protocol in a real situation it is necessary to implement the protocol on a system so that several users can then use it to exchange messages. This can be done in two ways depending on the circumstances. From the protocol specification, two kinds of software products can be developed: sample programs and sample implementations. Sample programs are written in a high level language (such as C or PASCAL), and provide facilities to "hook" the software into various input/output handlers or operating systems that are proprietary to specific hardware and software

manufacturers. Sample implementations are developed when necessary to enable libraries and other institutions that lack an existing system to participate in protocol testing and evaluation. Such implementations include data creation, editing, and storage and retrieval facilities. They represent complete stand alone systems developed to run on a particular computer, supported by a specific database management system.

In the case of interlibrary loan, Canadian libraries interested in testing the protocol with the National Library did not have existing interlibrary loan systems to which a sample program could be "hooked", so the route of a sample implementation was chosen. A sample implementation is a programme written for a specific piece of hardware.

The implementation that could best solve the interlibrary loan problem of multiple messaging systems was an interlibrary loan workstation that could handle messages coming from various systems, store and control the requests and send back the answers via the correct electronic mail system. Therefore to test the protocol the National Library developed a prototype automated interlibrary loan workstation incorporating the standard protocol specification which comprised the message formats, message types and sequences of message exchanged.

The prototype workstation was developed for an IBM PC or a compatible machine and was written in C language. The system assists message preparation by providing the user with a choice of structured screen display forms

to be filled out. There are separate forms for loan, locate and loan and locate only requests. Forms are also available for replies, renewal requests, overdue notices, conditional replies, cancellation of messages, lost/damaged reports, etc; The system verifies the accuracy and completeness of certain data elements entered on the form by the user and ensures that the message sent is appropriate for the current status of the ILL transaction. The user interface part of the system is based on the OCLC interlibrary loan system.

A delivery service interface was developed to access the two common carrier's electronic delivery services Envoy 100 (Telecom Canada) and EOS (CNCP Telecommunications), so that messages prepared on the workstation can be sent and received from both of these services on the same micro-computer. Message preparation and transmission can be conducted one at a time or in batches. The system takes care of the details of message transmission, the user only has to indicate to whom the message is to be sent. The user does not need to worry about the format of the transmitted message; this is handled automatically by the system.

A database of all the messages related to ILL transactions originated or received by the user is created, thus the system is able to keep track of all outstanding loan transactions. These can be retrieved by date, requesting library, responding library and by the status of the transaction.

For example, the system can display and print a summary of all overdue loan transactions sent to a particular library.

Automatic reception and printing of incoming messages at an unattended workstation can be arranged at times specified by the user. Each message is printed on a separate paper form to facilitate subsequent retrieval of the item from the stacks.

The workstation includes an extensive user help facility which provides detailed explanations of the menu of specific functions and as well as of error messages. For each field on the ILL message form an explanation can be provided indicating what data is required and in what format. For experienced users the help function can be by-passed.

In summary, the ILL protocol system enables libraries to maintain in-house, an on-line record of all ILL messages which have been transmitted and received in the standardized format from several telecommunication services or common carriers on a single intelligent workstation. It eliminates the need for paper file storage and manual file searching and other time consuming clerical activities. It also avoids expensive charges for prompting routines (or scripts) and for auto delivery and message storage on electronic mail services by providing these in the local workstation. It avoids the user having to make separate log-on and log-off routines for different communication services. Furthermore, the system, and the protocol on which it is based, permits the communication of ILL messages between

intelligent workstations e.g. micro- computers, and less sophisticated devices such as simple ASCII terminals.

Successful protocol development requires constant consultation and this has taken place at all levels of development of OSI protocols. The National Library has an overall Task Group on Computer/Communications Protocols for Bibliographic Data Interchange which advises on protocol development in general, as well as specialized development advisory groups which are established for each specific application protocol. Thus the National Library asked a number of interested libraries to act in an advisory role on the development of the interlibrary loan protocol. The membership of the ILL Development Advisory Group, represents a broad cross section of the library community. It includes in addition to the Interlending Division of the National Library of Canada, the Canada Institute for Scientific and Technical Information (CISTI), the Canadian Library Association, three university libraries, two provincial government library bodies and a bibliographic utility, UTLAS. The main responsibilities of the group are to advise on the development and distribution of the interlibrary loan protocol and to serve as institutional coordinators for testing the ILL protocol. The test group thus includes the major players in interlibrary loan in Canada. CISTI and the National Library have major lending collections in science and technology and in Canadian studies and the social sciences and the humanities respectively; they are major net lenders and maintain on-line union catalogues and lists. UTLAS is the principal Canadian bibliographic utility with a large union data base of holdings and an interlibrary loan

subsystem. The Nova Scotia Provincial Library acts as a clearing centre for locations in that province and inputs holdings directly to the Canadian union catalogue at the National Library. The Canadian Library Association is concerned with the Canadian interlibrary loan code.

A four-month field test on the prototype workstation is underway which will be completed in July 1985. It has ten participants, the majority being members of the ILL Development Advisory Group. Due to limited resources at the National Library, the number of test sites had to be kept relatively small as considerable coordination and tight scheduling is necessary, but the group is still representative of different types of libraries. The field test will include an evaluation of the workstation system software, the protocol itself and the economic implications of the application. The results of the evaluation and recommendations submitted by the participants will determine the extent to which a revision of the ILL protocol will be necessary.

It is essential that protocols and their implementations are tested in an actual working situation to ensure that they are economical and that they meet the requirements of the libraries that will use them, for example to make sure that all essential data elements and messages are included but that there are no redundant elements. Experience to date with the field trial is already showing some interesting results. Among the changes likely to be made to the protocol are some amalgamation of the messages reporting on the status of interlibrary loan transactions, as libraries which are

heavy interlibrary suppliers must keep each transaction to a minimum to reduce costs. Messages do still have to be initiated and sent by staff although the workstation greatly facilitates this. Fewer and briefer messages mean less staff time.

The interlibrary loan workstation programme was written for the National Library under contract and extensive acceptance and quality control testing was carried out before the release of the programme to the test participants. Problems in operation of the workstation can result from the programme itself, the microcomputer's operating system or language compiler or the common carrier electronic mail service. All of these factors make trying to track down a problem quite complicated. Some problems do not surface until heavy high volume use is encountered. Thus it was decided to test the workstation programme with a small number of high use participants before releasing it to the full test group. It was discovered that a lot of time was required not just to train the users in the interlibrary loan departments of the participating libraries in the use of the workstation and the protocols but also in the use of the microcomputer itself, because in many cases this was the first time staff had used a microcomputer. In general, however, the participants have been enthusiastic and the eagerness of Canadian libraries to participate in OSI protocol development and testing, despite the cost to the libraries in staff time, has been encouraging.

An ILL workstation should solve the problem of the multiplicity of messaging systems and prove a cost effective way of storing in-process ILL transactions. Interfaces to other electronic messaging system can be added as required. Future developments to the workstation will be modular. A statistical package will be added so that standard interlibrary loan statistics and management information can be collected by network participants. Service and protocol specifications have been developed for an ILL invoicing module which will enable libraries to automatically prepare an itemized list of chargeable services incurred by a requesting library. The module will cover charges for loans, photocopies, micro-reproductions and lost or damaged items. Each time an item is shipped or a message concerning fees sent, the pertinent charging information would be stored and used to complete the invoice. A library could also request an adjustment to the amount charged for items on an invoice, a description of the item, the reason for the request for adjustment and the amount of the adjustment desired being specified.

A later stage of development of the protocols will be the ability to transfer bibliographic records not only between systems (the file transfer and search and transfer protocols) but between applications. A bibliographic record could be transferred from the data base which is searched to find a location to the interlibrary message, using two OSI protocols, interlibrary loan and search and transfer. The National Library is working on a search and transfer protocol which enables users to search different source data bases and then transfer records to other applications such as interlibrary loan.

An outstanding problem noted during the iNet trial was the variety of different search strategies used in various systems, that is, the lack of a standard data base access. This is a complex issue which is being worked on by ISO/TC46/SC4/WG5: (DP 8777 revised: Documentation - Commands for interactive search systems). Two developments are needed: common command language and a standard way of formulating queries to data bases. These would obviate the need for a user to learn a multiplicity of data base-specific commands. A mechanism also needs to be developed to be able to apply without rekeying a data base search against a series of data bases, in a preselected order chosen by a particular library. A library could choose in priority order, the list of data bases it prefers to search, selected for reasons of record compatibility, cost, data base contents, etc. The search would then (given a standard search query) be automatically applied throughout the list. When the required item was found, the preferred location could be automatically selected (by geographic location, type of library, loan charges, etc.) and the bibliographic information transferred to the interlibrary loan messaging application. These developments will take some time, but will eventually go a long way towards automating most of the interlibrary loan process.

The interlibrary loan workstation has a directory function. It is essential to know what is available in the network, the data bases and services available from various libraries with their terms and conditions. The workstation uses lists of the holding symbols of libraries, lists of electronic mail system addresses and directories of interlibrary loan charges. Many of these directories will be common to a number of applications.

Large Canadian university libraries are becoming interested in undertaking collection inventories using the Conspectus methodology being developed by the Association of Research Libraries and the Research Libraries Group. This would be complemented by a directory of special collections in Canadian libraries. These could be part of the directory information required in the resource-sharing network to support interlibrary lending and document supply and to assist libraries in determining where best to direct an interlibrary loan request. The interlibrary loan protocol may also in the future be linked to protocols for electronic document delivery of full text.

Finally how will the OSI interlibrary protocol and the workstation software be made available to the Canadian library community? The National Library has developed a strategy to promote the widest possible use of OSI protocols for bibliographic interchange among Canadian libraries and related sectors such as the publishing and the information industries. Service specifications are descriptions of standards, and as such are considered in the Canadian public domain. Protocol specifications, sample programs and sample implementations which are coded versions of the standards laid out in the service specifications, have commercial value and are therefore seen as proprietary and licensable. The National Library will retain ownership of all its OSI protocol products until they are licensed, but distribution of protocol specifications will be without charge to Canadian institutions so as not to erect barriers to protocol diffusion. Firms or institutions that choose to implement protocols based on the sample program or on the protocol specification must undergo formal assessment tests operated by the National Library of their specific implementations to ensure that these conform to

the protocol specification and can therefore communicate with other implementations. Early recipients of the protocol are asked to recognize the present experimental nature of the protocol development process, and accept that implementation of any product is entirely at their own risk. They must also understand that protocols like other standards, for example MARC formats, are subject to updating and revision as necessary changes are identified. Thus, the National Library will permit royalty free non-exclusive licensing to Canadian distributors who will be subject to certain terms and conditions aimed at ensuring essential compatibility in implementation of the protocols.

The interlibrary loan protocol specification will be available from the National Library of Canada for implementation on other types of hardware or on existing bibliographic systems. To date, the preliminary protocol specifications have been released to UTLAS and GEAC, who have marketing rights to their particular implementations. UTLAS has agreed to implement the protocol on its new Tandem system in connection with its Interlibrary Loan Facility. This will mean that the customers of this large utility will be able to exchange interlibrary loan messages with other systems and individual libraries which have implemented the protocol. Implementation of the protocol by GEAC will make the protocol available for users and purchasers of the GEAC system. After testing and evaluation the workstation software will be made available in Canada through one or more licensed distributors probably in a revised form and it is expected that the capabilities of the workstation will be incorporated in other software packages.

General OSI development is in its early stages in Canada, but it is receiving strong support from the Canadian Government. The development of OSI library applications are rapidly receiving acceptance in the library community which sees protocols as the solution to the multiplicity of computer and telecommunications systems which threaten the easy sharing of resources on which Canadian libraries have come to depend. The interlibrary loan protocol and prototype workstation are showing that freedom of choice in use of computer and electronic mail systems can coexist through the use of standards with efficient networking for resource sharing.

References

Information Processing Systems - Open Systems Interconnection - Basic Reference Model: ISO 7498 - 1983 (E). [Geneva] ISO, 1983.

Linking: today's libraries, tomorrow's technologies; report of the Bibliographic and Communications Network Pilot Project. Ottawa, National Library of Canada, 1984.

"Network and protocol development", by Edwin Buchinski and David McCallum in Canadian Library Journal, 42:3, June 1985, 131-34.

Trade Data Interchange Directory. United Nations. Economic Commission for Europe, May 1981.

IFLA GENERAL CONFERENCE CHICAGO 1985
Division: Collection and Services
Section: Interlending and Document Delivery

54-IL-3-E

The Online System of Union Catalogues and Interlibrary Loan ('NCC/IBL') in the Netherlands

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Keyword(s):
Interlending;
Online automation;
Netherlands

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To be brought to meeting no:
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THE ONLINE SYSTEM OF UNION CATALOGUES AND INTERLIBRARY LOAN ('NCC/IBL') IN THE NETHERLANDS *)

1. The interlending system in the Netherlands

The interlending system in the Netherlands has always been a rather liberal one. On a basis of voluntary co-operation all types of libraries are involved in it. Every library may send loan requests to every other library in the country. Other institutions and even private persons are allowed to apply directly - by mail, telex or telephone - to any library they want. Nevertheless private persons are encouraged to use a local library - generally a public library - as an entrance into the circuit(s). Libraries and other institutions are expected to send their requests first to one of the union catalogues. Private persons may do so as well. Only in case it reasonably can be expected that a request will be fullfilled by a specialized library, it is advisable, and as a rule it is done in practice, to apply directly to such a library. Interlending in the Netherlands is not charged.

Union catalogues are a main instrument in interlending in the Netherlands. The most important ones are the union catalogues, maintained by the Royal Library in The Hague - the Dutch national library, at least to a certain extent -, and the union catalogue of technical libraries of the Technical University Library at Delft.This library functions partly as a national library for technical literature and as such is sponsored by the ministry of Education. They are recently joined by an automated catalogue system (Agralin) of the Library of the Agricultural University at Wageningen, - the national agricultural library -, in which other agricultural libraries participate in a joint venture.

For a long time the Royal Library has maintained three union catalogues: a union catalogue of books ('Centrale Catalogus' - CC), a union catalogue of periodicals and serials ('Centrale Catalogus van Periodieken en Seriewerken in Nederlandse Bibliotheken' - CCP) and a union catalogue of congress publications ('Centrale Catalogus van Congressen'- CCC). Entries are by author or title in CC and CCP, by subject heading in CCC. The CC contains ab. 6.000.000 titles with approx. 24,000,000 holdings of 86 libraries (research, special and large public libraries). As a result of the automation of book-

*) Partly this paper is an updated version of a paper, Interlibrary lending in the Netherlands, which I presented to the Seminar on Interlibrary Lending in Western Europe in Boston Spa (UK), 26-28 september 1983.

processing in Dutch libraries, the CC card catalogue was closed recently, an exception being made for certain titles. The CCP has been automated since long. It was published in bookform: Centrale Catalogus van Periodieken en Seriewerken in Nederlandse Bibliotheken. The latest, complete edition, which will also be the last, was published by the Royal Library in March 1983 in 14 vols, containing 200,000 titles (this number including cross references and alternative titles) with approx. 800,000 holdings of 225 libraries. The CCC is a card catalogue, containing more than 90,000 titles with approx. 275,000 holdings of 225 libraries. Automation of the CCC has yet to start.

The union catalogue of technical libraries ('Centrale Technische Catalogus' - CTC), maintained by the library of the Delft Technical University, contains more than 600,000 holdings of 160 libraries. The titles of periodicals in de CTC have been automated and were currently published in book form (26,000 titels with 90,000 holdings).

The in the near future wholly automated union catalogue of agricultural libraries ('Centrale Landbouw Catalogus' - CLC), maintained by the Library of the Agricultural University at Wageningen, contains more than 375,000 titles with approx. 750,000 holdings. The titles of the periodicals in the CLC (18,000 titles) have all been automated.

To some extent the union catalogues of the three libraries are overlapping, as some libraries were participating in more than one union catalogue (e.g. the central libraries of the technical universities and the central library of the Agricultural University were alee participating in the union catalogues of the Royal Library). For titles to be added recently an end has been put to this duplication.

Although the interlending system in the Netherlands is an integrated system, in which all types of libraries participate and co-operate, there are several circuits (or in some cases rather sub-circuits). Most important of these is the public library structure for interlending. It is basically a regional system with two components in each region, a 'Provinciale Bibliotheekcentrale' (PBC) - a service center in each province, mainly for the small public libraries -, which a.o. maintains a core collection for interlending, and a 'Regionale Steunbibliotheek' (RSB) -a 'Regional Support Library', a library function, which has developed since the late sixties. The libraries with 'RSB'-function are participating in the union catalogues

of the Royal Library. Part of the public library system is also the 'Landelijke Bibliotheekcentrale' (LBC = 'National Library Center'), which is a library collecting a.o. research literature in the Dutch language, for which there is some demand in public libraries. The LBC is also participating in the union catalogues of the Royal Library.

For scientific literature the main burden of interlending is borne by the Royal Library and the 13 university libraries and - for literature in the field of medicine and biology - the library of the 'Koninklijke Nederlandse Academie van Wetenschappen' (Royal Dutch Academy of Sciences), a kind of national library for medicine and biology. Some special libraries, particularly some libraries of government departments, play a significant role in inderlending. More or less these government libraries have a circuit of their own.

The partly overlapping circuits (and subcircuits) on the level of research and special libraries are mainly centered around the union catalogues, maintained by the Royal Library, the Library at Delft and the Agricultural Library at Wageningen. Among them the circuits around subs. the union catalogues of the Royal Library and the Delft union catalogue are the most important. Both of them handle an equal number of loan requests. The Delft circuit serves mainly the industrial libraries and libraries of technical research institutions. The Wageningen circuit of course consists of all kinds of agricultural libraries.

Accurate overall figures on interlending are not available. Some years ago in a report of the Library Council on interlibrary lending in the Netherlands the number of loanrequests, sent to libraries, was estimated as being more than 700,000. It is not likely, that this figure has changed very much. Statistics of the above mentioned union catalogues indicate, that yearly approx. 450,000 requests were handled by the departments of the union catalogues (more than 200,000 by The Hague and Delft each).

Everywhere online library automation has or will have an increasing impact on interlending. In some countries online facilities have already been developed (e.g. in the USA by OCLC and by RLG (RLIN), in France the online Catalogue Collectif National Informatrice des Publications en Serie (CCN) developed under the responsibility of DBMIST).

In the Netherlands the keepers of the union catalogues in The Hague, Delft and Wageningen realised, that in a country of the size of the Netherlands the challenge, presented by this new development, in an adequate way only could be met by a close co-operation. In 1980 they decided to set up jointly an online union catalogue, the 'Nederlandse Centrale Catalogus van Boeken, Periodieken en Congressen' (NCC = Dutch Union Catalogue of Books, Periodicals and Congresses). The NCC is combined with an online system for handling interlibrary loan requests ('Interbibliothecair leenverkeer' - IBL) in the so called 'NCC/IBL'system. The automated system is developed by PICA. By contract a co-operative organization ('NCC-samenwerkingsverband') was founded - formally in 1984 - for managing the 'NCC/IBL'system. The NCC board consists of the three librarians of the libraries involved and two other members, appointed by co-optation (presently a university librarian and a director of a public library). The director of PICA is an advisory member of the NCC-board. A committee of user-libraries is regularly consulted.

For a clear understanding of the 'NCC/IBL'system first a picture of the development of online library automation in the Netherlands has to be presented.

2. Online library automation in the Netherlands

Undoubtedly the most important online library automation system (or rather systems) in the Netherlands has been developed by PICA.After a rather long preparatory fase, in 1977 a consortium of the Royal Library and 6 university libraries, forming together the co-operative organization PICA (= Project for Integrated Catalogue Automation), started with an online cataloguing system, based on the principles of shared cataloguing and extracting titles from a common database. The cataloguing system was more or less modelled after the OCLC system in the USA. The database was currently fed, first only with tapes of BNB and later also with LC Marc tapes and tapes of 'Brinkman's Catalogus', the Dutch national bibliography, which in March 1982 was connected directly to the PICA cataloguing system. Since then cataloguing for the Dutch national bibliography - with some special facilities in the form of some separate authority files for the national bibliography - is done online, using the same database and on the basis of shared cataloguing with other libraries (of course, the cataloguing of titles for the national bibliography

is done for more than 95% by the Royal Library). In 1978 the Royal Library acquired for use in PICA a selection of approx. 500.000 titles from the OCLC database, at the moment of selection consisting of ab. 3.000.000 titles. The format, used by PICA, is a Marc-like format. PICA used for the cataloguing system a PDP 11/70 with another 11/70 as back up. The PICA bureau together with the computersystem is housed in the Royal Library. In the summer of 1985 the PDP 11/70 was replaced by TANDEM nonstop hardware.

In 1977 PICA had a rather modest start, but soon it got impetus. It was strongly supported by the Ministry of Education. Since 1979 it developes its own software and it runs itself the computer system. In 1981 a second version of the cataloguing system was implemented (PICA II). The internal PICA format was enlarged, such as to be able to encompass, besides the original PICA-format, the other MARC-formatsas LC Marc, BNB Marc and Intermarc. The staff of the PICA bureau numbers at this moment ab. 45. Participation in the cataloguing system grew. At this moment 7 out of 13 university libraries do all the cataloguing of their current acquisitions using the PICA database (2 of them use it for part of the current cataloguing and do uptill now most of the cataloguing on their own online system).

Presently 11 of the 13 libraries with'RSB'- function in the public library network participate in the PICA cataloguing system. The 'Landelijke Bibliotheekcentrale' (LBC) also does its cataloguing on PICA. Also NBLC, the central organization of public libraries, which maintains a cataloguing service for public libraries, became one of the participants. Some special libraries also use the PICA cataloguing system. Presently some 35 libraries and other institutions have joined the system (the Royal Library uses the system for 5 different departments with different usernumbers: the research collections, the national bibliography, the union catalogues of books and periodicals, the STCN project (Short Title Catalogue Netherlands, 17th and 18th century). At this moment the database consists of approx. 2.500.000 titles, with approx. 1.800.000 holdings. Most of the off-line products (catalogue-card service, printed lists in form of Digiset-, laserprint- or computerprint output, COM-fiches) are made by a private firm.

The Library of the Agricultural University at Wageningen in co-operation with the Ministry of Agriculture has adopted the Canadian database management system Minisis and built its own total library system Agralin. The Library of the Technical University at Delft has chosen for the wellknown DOBIS-LIBIS system, but is only just starting with the implementation of it. To be mentioned further are the adoption of the GEAC system by the university library at Utrecht and the development by the University of Amsterdam of its own system. Both also have a cataloguing relation with PICA, but, as already indicated, still do most of the current cataloguing on their own system. The Technical University at Eindhoven has adopted VUBIS, the total library system of the Dutch language Free University at Brussels (Belgium).

Besides the cataloguing system PICA developed 'process-systems' for local use, to be implemented separately by libraries on their own minicomputer (PDP 11/44).'Process-systems', thus far developed, are an online acquisitions system, which can also be used on the central computer of the PICA cataloguing system, an online stock management and circulation control system and a system for an online public catalogue. The latter was in 1984 and 1985 during half a year extensively tested in two libraries. In the near future it will be connected to the PICA circulation system in a library. Only part of the libraries, participating in the PICA-cataloguing system, use PICA-'process-systems'. In public libraries ALS and GEAC are much used. PICA has also developed plans for hosting documentary databases providing facilities for online retrieval and also to produce special bibliographies.

Automatically the PICA-database became a union catalogue of holdings of participating libraries. Soon it was clear, that this PICA-union catalogue roughly would correspond with the circuit of the research libraries in the unions catalogues in The Hague (with the exception of the libraries of the technical universities and of the agricultural university, which however, as already described, form circuits of their own) and the circuit of the upper strata of the public library system.

In an early stage the Royal Library and PICA envisaged the use of the PICA-cataloguing system for the production of the union catalogues of the Royal Library. The best solution seemed

to be to close the card-catalogues and connect the department of union catalogues of the Royal Library with the PICA-cataloguing system. Thus the department of union catalogues would more or less function as a separate PICA library. It would add to titles, found in the database, the holdings of non-automated libraries. Of a small percentage of titles short, low graded catalogue-entries would be entered into the PICA database. Titles of libraries with their own automated cataloguing system would be received on tape and added in an offline procedure. The adding of holdings has been fully implemented since 1981. For the department of union catalogues a special online facility, enabling to add quickly a library holding to a title in the database, was created. Thus far lack of manpower prevented the cataloguing of titles, not found in the database. Neither have titles on tape been entered up till now, as - among some other reasons - in the offline procedure of matching and merging titles the redressing of errors seems to be rather time-consuming. Part of the loanrequests for monographs is also searched by the department in the database of the PICA-cataloguing system (in 1984 ab. 40 - 50.000 out of a total of ab. 135.000 loanrequests for monographs). As already mentioned at the same time plans for the 'NCC/IBL'system were developed.

3. The online 'NCC/IBL'system

As a preliminary measure in 1980 a false problem concerning a controversy about 'long' and 'short' titles, a ghost, which in connection with catalogue automation had haunted the Dutch library world more than one decade, was definitively eliminated. An understanding was reached, in which the requirements of a so-called miniformat for use in a national union catalogue were formulated.

As already mentioned, in 1980 the keepers of the union catalogues agreed upon the desirability of creating in a joint venture a national union catalogue of books, periodicals and congress publications, which could be consulted online by libraries, and to connect this union catalogue with an automated system of handling interlibrary loan requests. It was also agreed, that this NCC/IBL system should be developed by PICA and, in the PICA technical framework, be implemented on a separate minicomputer. The NCC/IBL database

would be fed with (short) titles with holdings from the databases of the cataloguing systems, used for resp. CC - CCP - CCC in The Hague, CTC in Delft and CLC in Wageningen. These were the 'production-systems' for creating and updating union catalogues, the NCC/IBL system would be the'user-system', in which titles from the production systems would be merged into one database. In this way the three libraries would keep the responsibility for continuing their own union catalogues. They would also be responsible, as in the past, for their own circuits in interlending. However, the overlapping of the different union catalogues would be eliminated. Since 1983 a library participates for its new acquisitions in only one of the union catalogues.

Specifications were laid down in a report, formulated by the PICA bureau under the guidance of a working committee of representatives of the three libraries and PICA. This report, Nationale Centrale Catalogus en Interbibliothecair Leenverkeer.'s-Gravenhage, 1980 (National Union Catalogue and Interlibrary Lending), was adopted and published in 1980 by the three libraries involved. It was approved by the Ministry of Education. In a hearing the plan was presented to the Dutch library world. It was received favourably. With the Ministry of Education an agreement was reached upon the financing of the 'NCC-IBL'system: central hardware (to start with a PDP 11/44) and the development of the software would be paid for by the Ministry of Education, the maintainance and technical managing of the system by the PICA-bureau would be financed by the keepers of the union catalogues and for the administrative costs the users would be charged (f 0,35 per search). During the first years the Ministry of Education would give a guarantee for payment of the administrative costs.

In 1981 the PICA-bureau started with the development of the software, in 1982 the NCC computer was installed and used for program development, from September 1982 onward the database was built up, using the miniformat. It was decided to start with periodicals and serials - more than 50% of the loanrequests - and as a first step to merge CCP, CTC-periodicals and CLC periodicals and serials. In a first round this was completed in April 1983. A first phase of the online system became operational at 2 May 1983. The result of the merging is a database, which in March 1985 contained 200.000

titles of periodicals and serials with more than 925.000 holdings. In May and June 1983 the three library-keepers of union catalogues started to implement the system. From July 1983 onward other libraries were connected to the system.

Originally it was envisaged to take the second step of adding the monographs to the system within a year. This has been postponed for several reasons. Firstly the full implementation and rounding off of the system for periodicals, as well as the redressing of some initial errors, however small they mostly were, required much care, secondly it soon became clear, that the capacity of the minicomputer was insufficient even for a start with monographs, which would be more modest than planned, thirdly it took some time to decide on an alternative. The alternative, upon which an agreement was reached, was to enlarge for NCC/IBL use the TANDEM computerconfiguration, which PICA installed in the beginning of 1985. It is not to be regretted, that the start with the monographs had to be postponed. Valuable experience has been gained with the system for periodicals, in the first place regarding the use of it made by the libraries, which will be of much help in the extension of the system with monographs.

With some exceptions the titles of periodicals and serials in the three union catalogues had all already been automated. Searching the NCC database gives nearly always an answer to the question, whether a periodical or serial can be obtained in Dutch libraries. However, it is also possible to direct a request for a title, which is not to be found in the database, to the departments of union catalogues for searching in the card catalogues. If found there, holdings are added to this so called 'free request', which in the same way is distributed among libraries as requests for titles, found in the database. Especially for monographs this facility will be important.

The system distributes the loanrequests according to a distribution-algorithm in which the interlibrary lending working load of a library, the catagory of a library and the established (sub-)circuits in interlibrary loan form the variables. The relative importance of these variables can be changed daily by changing weighing factors belonging to each of the variables, in other words, the potential workload of a library can be increased or decreased day by day. The purpose was to achieve a better proportional distribution

of loanrequests among libraries. Requests for loans from libraries, not online accessible by the system, are sent to those libraries by mail, requests being printed by the system. Every library, participating in the union catalogues - also those libraries not yet having the intention to be connected directly to the NCC/IBL system - was asked how many requests it could handle daily.

Although the facility is only being implemented in practice recently, the possibility to form a (sub)circuit of libraries by region, by type or by some other criterium was developed as an integral part of the system. On their own request a group of libraries - libraries participating in the union catalogues as well as libraries, which are only users - may form a circuit. A request for a publication, which can be found within the circuit, will only be sent to libraries outside the circuit, if the item requested is not available (on loan etc.). After the implementation of the system, when only the algorithm of the interlibrary lending working load was applied, it soon became clear, that some well established routines among certain libraries, sending requests to eachother, were disturbed. These routines can be restored or new patterns may be established, if desirable. A regional code can be applied in order to ensure, that a request is sent first to a library in the neighbourhood (e.g. the same town).

A number of libraries - The Royal Library, the university libraries, the libraries with 'RSB'-function and some other libraries have an additional task of 'verdelende bibliotheek'('distributing library', a rather misleading term), i.e. the task of putting loan requests into the system on behalf of libraries, which do not (yet) possess a terminal, which can be used for the NCC/IBL system. A 'verdelende bibliotheek' also has the task to report to the system the (non)fulfillment of a request on behalf of a library in its region, which does not have a direct access to the system. As the number of libraries, using NCC/IBL directly, will increase, the task of 'verdelende bibliotheek' will diminish.

The head of the department of union catalogues of the Royal Library has been appointed as 'IBL-coördinator', with the special tasks of keeping close contact with participating libraries, solving day-to-day problems in interlibrary loan, strengthening the

co-operation of the union catalogues and promoting the system among not yet participating institutions.

It was the intention to lead all loanrequests , directed to the union catalogues, through the NCC/IBL system. At this moment the departments of the union catalogues put all loanrequests for periodicals and serials, sent to them by mail, into the system. Thanks to the increasing online use of the system by the libraries, the workload for the departments of the union catalogues was not too heavy. The union catalogues do not put loanrequests into the system, which should be handled e.g. by university libraries on behalf of departments within the university. A search action is charged with f 0,35 (however for a start these costs are subsidized by the Ministry of Education). The handling of a request (the 'IBL'part of the system) is not charged. It was estimated, that for a loanrequest an average of two searches would be needed. For periodicals in practice it was 1,77 in 1984. Libraries have also to pay for communication costs (PICA libraries being able to use the same communicationfacilities as for the cataloguing system).

The implementation of the system for periodicals has been a succes. Although there were some deficiencies, participating libraries are satisfied. A weak point is the reporting back to the system of the (non) fulfillment of a request. In 1984 138.383 loan-requests were put into the system. The number is still increasing considerably. In this context it should be noted, that a loanform, sent to a NCC library by post, is usually not put into the 'NCC/IBL' system, when the request can be fulfilled directly by the library itself. In April 1985 ab. 100 libraries and other institutions were directly connected to the system, either by dedicated line or by a dial up facility. Also the number of participants is steadily increasing. In future it probably will be possible to use a public packet-switching network for datacommunication. As the system can follow each request, the attitude of the different libraries in handling loanrequests becomes very clear.

For searching in the database of periodicals and serials there are different kinds of searchkeys: ISSN, CCP number, production number, a combination of keywords out of the title, corporate author. In a database of many millions of titles of monographs a keyword index will not be feasible. For monographs a 4-2-2-1 title key, combined

with an author key, and possibly vice versa (a more extended author key + short title key) will be implemented and indexed. Also a separate author-index is envisaged (and of course an ISBN-index).

It is planned, that the system for monographs will be in operation in the spring of 1986. As already mentioned it will be implemented on the PICA TANDEM computer, using the same database as the PICA cataloguing system, the titles being accessible through special NCC-indexes. For the time being the periodicals and serials will remain on the PDP 11/44.The user will approach both parts of the system through the PICA data communication network, without noticing, that the 'NCC/IBL' system has been loaded on two different computers.

In the first phase only the titles of the union catalogue for monographs of the Royal Library will be used (corresponding with the titles of monographs with holdings in the PICA cataloguing system, then more than 2.000.000 holdings of libraries). In the meantime problems of matching and merging of titles, delivered on tape by the other 'productionsystems', will be studied intensively. These problems willbe much trickier with monographs as it was the case with periodicals. It is possible, however, that the titles of the monographs of the CTC in the Delft Library,which as a whole yet have to be automated, will be added online to the PICA database (the hitrate being 70 - 80%).

In loading the titles of monographs, delivered on tape by different union catalogues, into the same computerconfiguration there are several options: a) a total matching and merging of titles (solving emerging problems by hand will be timeconsuming), b) only merging the titles, which automatically are matched clearly, and putting the residu in a separate file, c) no matching and merging, but having separate files of union catalogues, available through common indexes. Decisions will be taken after some research.

After the full implementation of the 'NCC/IBL'system as designed now, some extension will possibly be given to the system along the following lines:

- making interfaces between the 'NCC/IBL' system and automated loan systems of individual libraries, as to make it possible to ascertain online,whether a publication is available; and probably in connection with this:

- making interfaces between regional union catalogues, especially in the public library sector and the 'NCC/IBL'system;
- connecting the 'NCC/IBL' system' to automated document delivery systems;
- making connections with similar networks in other countries, and in general international co-operation in this field;
- in the long run perhaps making the system available to private persons through videotext facilities;
- studying the possible impact in the future of networks of distributed databases on the 'NCC/IBL'system.

It is not unlikely, that there will grow a rather large discrepancy between the sophisticated facilities, created in the 'NCC/IBL' system, and the subsequent increase of the demand on the one hand and the actual possibilities to supply users with the requested items on the other hand. This might become the most serious problem in the future. It will certainly be a very serious challenge for the Dutch libraries and for the makers of library-policy in the Netherlands.

Some literature in English

- Look Costers. The Pica Cataloguing System and the online Dutch Union Catalogue as its counterpart. In: Future of library networks. Ed. by Ahmed H.Helal and Joachim W.Weiss. Essen, 1982, p.95-113.
- Look Costers. The Dutch Pica Library Automation Network. In: INSPEL, Vol.17 (1983) no.1, p.21-28.
- Anton Bossers. Linking of automated library functions. In: Linking of automated library functions. Ed. by Anton Bossers. The Hague, 1983, p.15-31.
- J.R. de Groot, Pica and the humanities. In: Large libraries and new technological developments. Ed. by C.Reedijk, W.R.H.Koops and Carol K. Henry. München etc.,1984, p.35-42.
- L.Costers. Pica today and the future. In: Large libraries and new technological developments. Ed. by C.Reedijk, W.R.H.Koops and Carol K.Henry. München etc., 1984, p.43-50.
- Anton Bossers and Martin van Muyen. Library automation in the Netherlands and Pica. In: The Electronic Library, Vol.2 (1984) p.87-99.
- A.W. Willemsen. Interlibrary lending in the Netherlands. In: Proceedings of the Seminar on Interlibrary lending in Western Europe, Boston Spa (UK), 26-28 September,1983. Boston Spa (UK), BLLD, 1984, (annexes on microfiche).